

Leica

PHOTOGRAPHY



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Leica

PHOTOGRAPHY®

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COVER

Gjon Mili

This effervescent moment in a pas de deux from a performance of the ballet "La Fille Mal Gardée" was captured with the help of four electronic flash units and the Leica M3 with 50mm Summicron lens at f/8.

◀ INSIDE COVER

Joe Clark

This is an "Impro" - a short-scale derivative of a photograph which provides the viewer with an impression of the subject rather than a literal report on it. Clark shoots for his Impros on regular film, using soft lighting and low-contrast development. Then he transfers this negative to high-contrast film such as Microfile or Kodalith, and from this positive makes another negative.

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The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.



one-family show

Joe, Bernice and Junebug Clark

Some opinions to the contrary, the experience of the Joe Clark family is definitely not scientific proof that an acquired skill like photography can be inherited. Joe's son Junebug not only didn't learn how to use a Leica until he was three, but never earned a dime from his pictures until he was five! And, despite encouragement from his parents, he never mastered his art sufficiently to lecture on it before college seminars until he was six. Today, however, he is 11, and the early struggles are behind him.



Joe's pictures (on these two pages) cover many photo fields.



Junebug's parents, Joe and Bernice Clark, are themselves both successful professionals — he almost by accident and she somewhat in self-defense. During the depression of the 30's, Joe left his Cumberland Gap, Tenn. home for a job in Detroit as night watchman in Hudson's store. On a trip back to the hills, the lonesome country boy took some pictures with a borrowed box camera. The pictures were so good that Joe kept on shooting with the result that in 1940 his employers devoted all the store windows to mural-sized blow-ups of their watchman's camera work. And then they assigned him the photographs for their ads.

About this time, Joe had also become a frequent writer of letters-to-the-editor in a Detroit newspaper. His specialty was homespun philosophy, and one day he heard from a reader, Bernice Krent, who sent a brief, favorable comment on his views. Joe



400mm close-up was made during photo convention.

"Tame" wolf was shot with 35mm, one of Joe's most-used lenses.





Struggle to learn was caught by a 50mm lens.

replied, and a couple of letters later, sought out his fan in person. And in 1943, Bernice married "my mail-order husband." Six years later they became the parents of a son, calling him by a name honored among generations of Cumberland Gap Clarks.

One hot summer afternoon in 1953, Bernice was watching the four-year-old Junebug dunk himself in a washtub in the backyard. The influence of being married to a photographer, and of being the mother of a son who had already been using a Leica for a year began to tell on Bernice. So, when Joe had left on an out-of-town assignment (and wouldn't know if the self-assigned story failed), Bernice grabbed a camera and shot the story "Backyard Bather." The sequence sold to *Friends* magazine, and Bernice was launched as a free-lance, carrying the Clark family's specialized brand of togetherness to its logical conclusion.

Joe's famous trade mark "degree" of H.B.S.S. (Hill Billy Snap Shooter), belies a tremendous amount of sophistication, photographic and otherwise. His work appears regularly in such magazines as *Saturday Evening Post*, *Life*, *Coronet*, *Look*, *Esquire*, *National Geographic* and others. He also does a great deal of advertising work, and a recent and by-no-means-unusual month showed 19 pages of Joe Clark's photos in national magazine ads.



"Backyard bather" story launched Bernice's career as pro.

Prizewinner in magazine contest resulted from "practicing" with slow speeds.



Bernice, since her first mother-type picture story, has gone on to become the only woman to cover Soviet Deputy Premier Mikoyan's visit to the U. S. She has also invaded such normally-masculine areas as the photographing of new car models. And, of course, she still shoots and excels at more feminine types of stories.

All three Clarks fill speaking engagements, too. With his dad, Junebug has been a lecturer at National Press Photographers' Ass'n Short Courses and other professional groups. And Junebug often appears at the other end of the lens as a model in his parents' pictures. For, besides being the most successful 11-year-old professional photographer in the business, Junebug is also a very boy-like boy, thanks to parents who have never pushed his talents, but have merely encouraged them.

The Clark family are all Leica users. Junebug figuratively cut his teeth on one and has carried it regularly to school since kindergarten. Joe and Bernice use a variety of cameras, although Joe confesses to shooting about 90% of his work with one Leica and a 35mm lens.

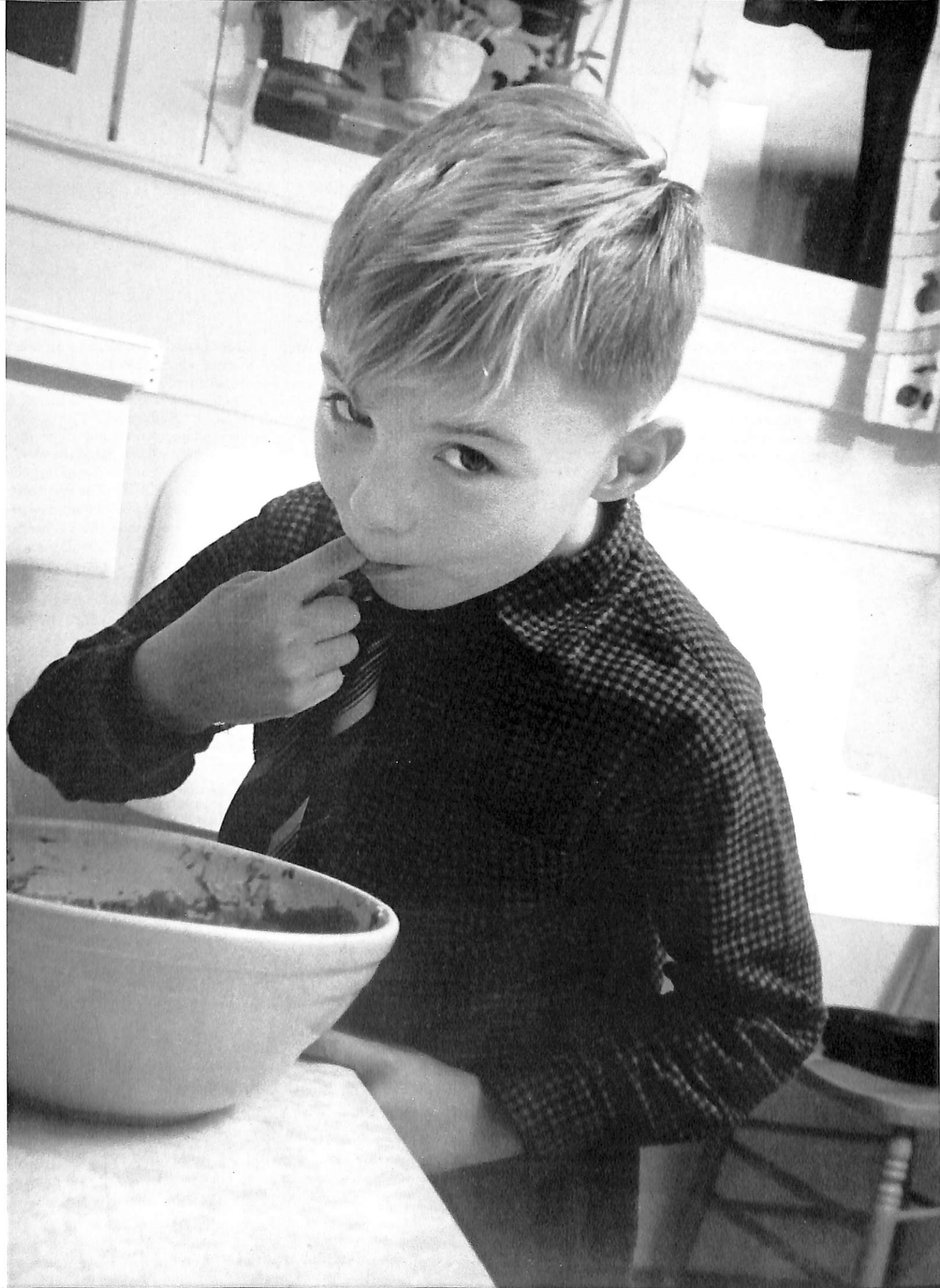


Junebug's picture eye livens a news shot of Art Carney.

Cousin Ricky's haircut, a Junebug classic, appears in "LOOK"'s book of the 250 best pictures to appear in that magazine.



Cookie-baking story produced this study of a gourmet at work.



35mm's neglected accessory—the tripod

| Harold Sands

are you downgrading lens performance?

The Leica was born a hand camera and, as such, it revolutionized photography. Its popularity today is still rooted in the creative freedom that all Leica photographers enjoy. Freedom, for instance, from tripods.

But the wise photographer knows the difference between freedom and license. For the fact is that a tripod improves some people's pictures all of the time and all people's pictures some of the time. (Unhappily, it takes more than a tripod to improve all people's pictures all of the time. But that's another story.)

This is not to say that a completely sharp picture can't be shot hand-held. Obviously, it is done all the time. But it takes practice and technique and a firm grip at the moment of exposure.

Naturally, the slower the shutter speed, the greater the need for a steady support. But the need for support (even with normal and wideangle lenses) begins at about 1/50th of a second — a faster speed than many photographers realize. Long lenses call for even faster minimum hand-held exposures. While some practiced, iron-nerved and -muscled photog-

raphers can hand-hold, with normal lenses, at speeds of $\frac{1}{4}$ and even $\frac{1}{2}$ second, most of us trembling mortals can improve picture sharpness by some additional camera support, even at 10 times these speeds. Some aids to steady holding were discussed in *Leica Photography* Vol. 10 No. 2 (Summer 1957).

If, like most photographers, you do not shoot pictures every day, you may be out of practice every time you pick up the camera. You may release the shutter a little more roughly than you intend to or you may put on a 90mm lens in place of a 35mm without taking extra care in making the exposure. During your next shooting session try this: make comparison shots on the same roll — some hand-held, some tripod-held and using a cable release at the same lens and shutter settings. Then compare the final prints or screen images from each group. Chances are you'll see a difference — and that the tripod shots will reveal how sharp your lens really is!

camera-shake

Speaking of lenses, have you ever blamed yours for lack of critical sharpness in your pictures? Unfairly,

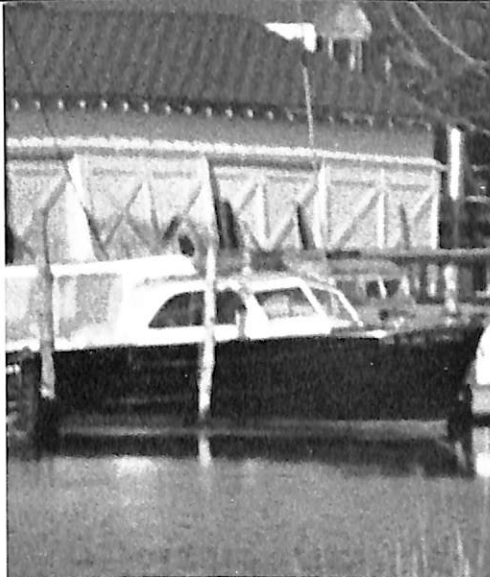
TRIPOD-HELD 200mm shows excellent sharpness. Note the legibility of legend "Reg. T. M." between two lower star points. Cable release should always be used with tripod-held camera.

HAND-HELD twin of Fig.1 shows severe camera movement. The 1/60th second speed (also used in Fig. 1) was much too slow to be relied on for sharp hand-held telephoto lens exposures.





TRIPOD-HELD shot with a 50mm Elmar is sharp, even at closer-than-proper viewing distance for 20X enlargement.



HAND-HELD picture with 50mm lens shows the softening effect of camera-shake. All the 50mm photographs were exposed 1/60th second at f/22.



TRIPOD-HELD photo, made in wind without steadying tripod is the softest of all three pictures.

many of us do, when the actual villain is something else entirely. For, a clean, properly-focused Leica lens, even of 1925 vintage, produces images sharp enough for mural sized blow-ups.

With today's lenses, films and developers, it is not even oneupmanship to make 8 x 10 or bigger enlargements that are virtually indistinguishable from contact prints. So, the chances are that camera-shake is the cause of the trouble. Assuming correct focus, exposure and processing, camera-shake has brought more undeserved blame to lenses than will ever be known. Its effect is to produce several images of the scene during exposure, each slightly shifted from the other.

Camera-shake is a major and often-unsuspected cause of unsharpness in prints and screen images — especially from 35mm originals. This, of course, is because of the necessary enlargement involved in bringing the small image up to viewing size. Slight blur from camera movement, undetectable on a contact print, increases exactly as much as every other detail in the enlarged print or projected slide — 30X or more in the case of the latter. The result in the print or on the screen ranges from a generalized slight softness to a hopeless blur — depending on the amount of movement involved.

And the threat of camera-shake increases in direct proportion to the focal length of the lens. Obviously, the longer the focal-length lenses will magnify camera movement just as they magnify image size on the negative or transparency. The final enlargement or projection of the result increases the blur still more. For instance: camera-shake that would produce an image-point blur of .1mm (.004") on a transparency when a 50mm lens is used would produce a blur .4mm (.016") long with a 200mm lens on the camera. And with the slide projected onto a 50" x 50" screen the blur would become a hopeless 13mm (about 1/2") long!

squeeze, don't jab

A common cause of camera-shake is the jabbing rather than squeezing of the shutter release. A cable release can prevent this. Another cause of camera-shake is a lack of a firm grip on the camera. Tense-ness, or exhaustion in the photographer, can produce it, as well. A good technique, especially for "long" exposures of 1/30th or more is to brace your body against a solid support and use the self-timer of the camera rather than a finger to set off the shutter. This minimizes the chances of jarring the camera.

But the best "trick" is to use a tripod. A tripod is the most versatile and universally-satisfactory camera support, whether it be a full sized one or a rugged little table-top model. Clamps, fence posts, piles of books, end-tables and the heads of kneeling assistants are expedient from time to time when a tripod is not handy, but nothing takes the place of the real thing.

The tripod need not be heavy. Rigidity is the thing to look for. No matter how great the lure of compactness, many-sectioned "pocket" tripods are usually not rigid enough when extended to full size to be satisfactory. These merely give you a false sense of security.

Incidentally, camera-shake is possible, even with a tripod, if there is a high wind which causes the tripod to quiver, or if you release the shutter with a finger rather than a cable release. In such a situation, it helps to press one hand down on the head of the tripod to add further steadiness. And use a cable release.

For every picture that might be lost in the time it takes to set up a tripod, there will be another that may be ruined because there is not steady support for the camera. So, don't let camera-shake steal the lens quality you paid for; learn to make rock-steady hand-held shots when you need to — and use a tripod whenever you can!

meet the Schiansky tripods

accessories fit them for many jobs

More and more 35mm photographers are discovering (or rediscovering) the value of a tripod. So, to meet the growing demand for a light, rigid, top-quality tripod, E. Leitz, Inc. of New York City are now offering the well-known Schiansky models, together with an array of versatile accessories. Each Schiansky model has the ruggedness and good looks to make it a perfect complement to the Leica.

photographer-tailored

To meet individual needs, Schiansky tripods come in several sizes and price ranges — eight, in all. Beginning with the Junior Model 121 on through the sleek yet massive Model 131, there is a model suited for every camera need from sub-miniature through 8 x 10 studio view.

An extrawide choice of tripods is guaranteed by the "S" versions — offered for the first time — of Models 121, 161 and 191. Models 121S, 161S and 191S, as they are termed, each have an extra leg section for added height, as compared to their numbersakes. The closed length of the regular models and their corresponding "S" versions is about the same. But the extra leg section of the "S" models adds from 11½ to 17 inches in height, depending on the model.

The lever leg-locks of the Schianskys provide a fast and reliable grip to hold leg sections at any extension. There are no threaded collars to corrode, fill

with dirt, gall or balk in use. A finger flip locks leg sections immovably or releases them instantly.

Highly rigid, pressure-cast "C"-beam upper leg sections provide channels in which ride conventional tubular leg sections of anodised light alloy.

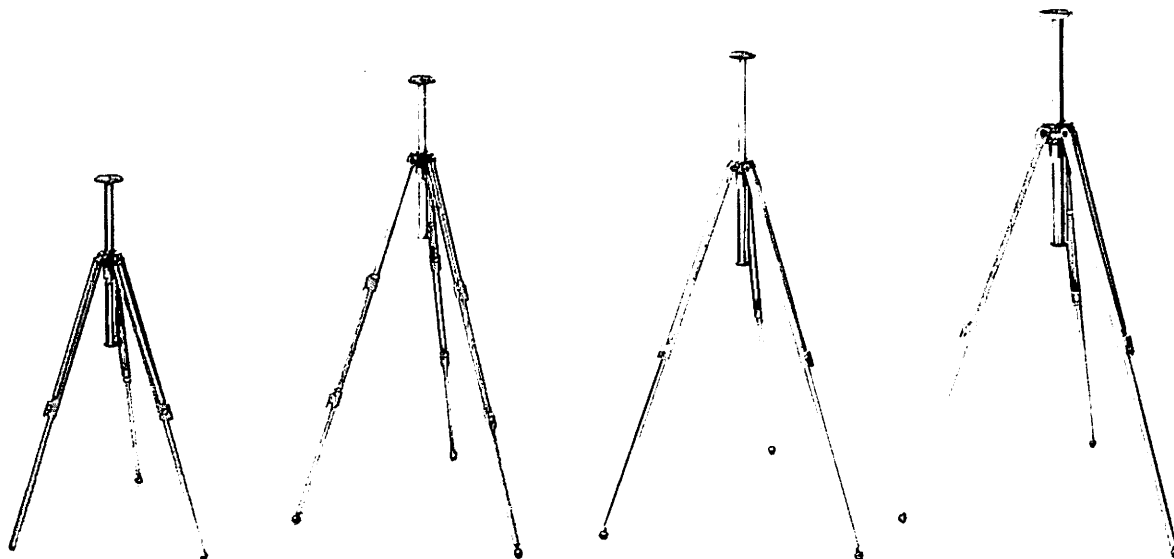
Especially noteworthy is the leg-spread lock in the head of Models 191 and 191S. This holds the tripod legs at any of three spread widths and prevents them from splaying out, should the legs ever slip when the tripod is used on a polished surface. Leg-spread settings can be varied from wide to narrow to fit available working space.

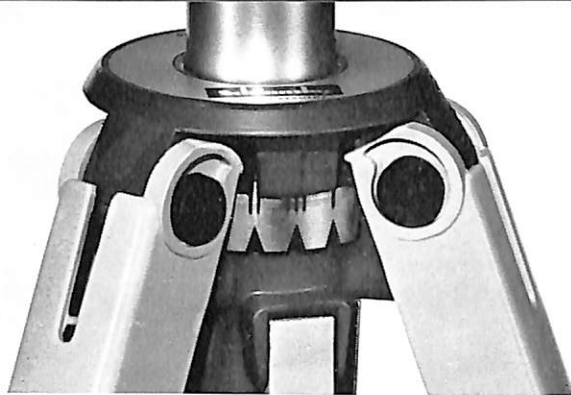
Another attractive feature of the tripods is the rigid yet light center column, which can be reversed to hold the camera close to the ground or floor for low-angle shots. The head of the center column is removed, the center column inverted and its head replaced, with the proper end of the tripod screw exposed, for low-angle work. The removable head of the column contains a reversible tripod screw, one end of which fits American and the other end European tripod sockets.

tripod heads

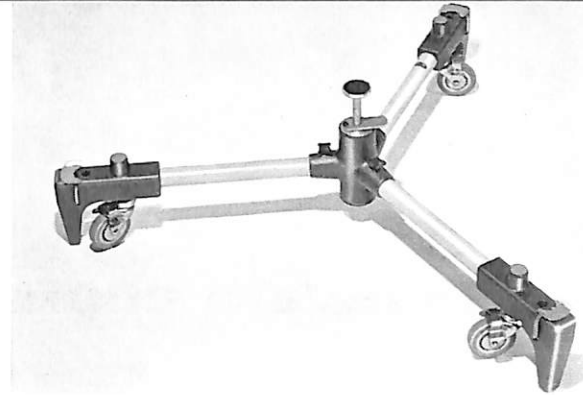
For maximum versatility, the Schiansky tripods are supplied without a ball-and-socket or pan-and-tilt head — leaving it to the photographer to decide which type best fits his needs. Six different types of heads

SCHIANSKY MODELS, in the usual order, are 121, 149, 161 and 191. Model 149 is short enough to fit into a brief case when collapsed.





THREE-POSITION LOCK prevents splaying of legs on Models 191 and 191S. These models will hold even a 5 x 7-inch view camera.



DOLLY 135 is a rolling tripod stand. It is used for moving heavy cameras in the studio and for follow-action in movie sequences.

are available for either motion-picture or still photography. These include three ball-and-socket heads for light, medium and heavyweight cameras, plus three pan-and-tilt heads (two with built-in bubble level and pan-and-tilt scale) for 8 or 16mm movie cameras.

accessories for versatility

Besides the tripods, the Schiansky line offers lighting stands in both home and studio models, as well as a number of imaginative accessories which increase the usefulness of the tripods.

For low angle shots or for close-up and copy work, the Copying Bracket 320 converts the tripod to a copy stand. It also permits you to take large scale close-ups with the Visoflex or other close-up equipment without interference from the tripod legs.

For the large Model 131 tripod, there is available a geared extension column (Model 137) which is ideal for the handling of large studio or bulky 16mm movie equipment. A crank on the Model 137 column effortlessly raises or lowers even the heaviest cameras. Also available is a second, gearless extension column (Model 134) which is manually operated in the same way as the standard columns on Schiansky tripods other than Model 131.

Of special interest to movie and slide enthusiasts is the simple, ingenious Projector Platform 350. This sturdy plastic platform attaches to the tripod top or

accessory head like a camera and provides a wide flat surface on which to stand a still or movie projector, thus converting the tripod into a projection table.

And for movie fans or studio photographers there is the Tripod Dolly 135. This three-wheeled, rolling platform holds the tripod feet rigidly in place, and provides a movable base for still or movie cameras. A foot-pedal lock and release either holds the dolly stationary or releases it instantly for movement. Movie fans will find this accessory an ideal addition for making interesting "dolly" shots in which the camera follows the action by moving along with it. In the studio, the dolly is especially useful in moving heavy cameras about from place to place. The dolly is easily dismantled for storage or transportation.

Other available accessories include tripod socket adapters to convert European to American thread and to provide Bolex thread for cable releases for pan-and-tilt head Models 142 and 162. To protect the tripods, and for convenience in carrying them, there are seven types of tripod cases available. Each is designed to accept a particular tripod-with-accessory-head combination.

Prices of the Schiansky tripods are from \$19.50 to \$87.00. Ball-and-socket and pan-and-tilt heads are from \$7.50 to \$36.00. Individual prices of tripods and accessories are available from your Franchised Leica Dealer or from E. Leitz, Inc.

MODEL 131 holds heavy studio cameras up to 8 x 10. A chain brace prevents leg slippage.



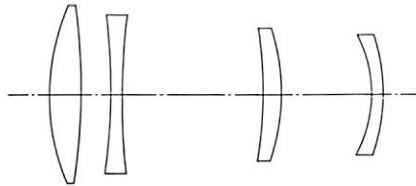
PAN-AND-TILT HEADS 139, 142 AND 162. First two have built-in bubble level and both panning and tilt scales. All models can be used with either still or movie cameras.



now there's a 280mm Telyt

new f/4.8 model creates telelens series

<i>Elements:</i>	4
<i>Maximum Aperture:</i>	f/4.8
<i>Minimum Aperture:</i>	f/22
<i>Angle of View:</i>	8.5°
<i>Class:</i>	Telephoto
<i>Mount Type:</i>	Rigid, Short
<i>Click Stops:</i>	Yes, including half-stops. Pre-set diaphragm
<i>Coupling:</i>	Visoflex I or Visoflex II with OUBIO
<i>Filter Size:</i>	E 58
<i>Lens Hood:</i>	Built-on, collapsible
<i>Minimum Focus:</i>	13 feet
<i>Minimum Focus Area:</i>	Approx. 11.3" x 16.9"



A remarkable new Telyt telephoto lens whose focal length dovetails neatly between those of the existing 200mm and 400mm models, has just been announced by Ernst Leitz Canada, Ltd., where the lens was designed and will be made. Like the other Telyts, the new 280mm lens is based on a Leitz-patented formula.

Question Number One, of course, is why 280mm and not 300mm? Isn't 300mm a satisfyingly round and logical focal length for a lens to tuck in between 200mm and 400mm models? Round, yes; logical, no. It is logical only superficially. For, compared to the 200mm lens, a 300mm would give 1.5X magnification. And, compared to a 300mm lens, a 400mm would provide 1.33X magnification. So, a 300mm lens would not be halfway between 200mm and 400mm in terms of image size.

But a little quick pencil work, thoughtfully done for us in advance by the lens designers, shows that the 280mm lens provides an image 1.4X bigger than that of a 200mm lens. And the 400mm lens produces an image 1.4X the size of that formed by a 280mm lens. Thus, the logic of a 280mm focal length is unassailable.

standout performer

Excellent performance at infinity can be taken for granted in a top-quality telephoto objective. But the mark of a truly modern top-drawer long lens is brilliant image quality at short focusing distances. And in this area, like its "little" brother the 200mm Telyt, the new "280" shines like a first-magnitude star. This, of course, means versatility beyond the

dreams of a decade ago, since an inexpensive extension tubes will convert the lens for short-distance work of outstanding quality.

Physically, the new 280mm Telyt has a strong family resemblance to its big brother the 400mm. Like that of the longer lens, the mount of the 280mm features a rotating tripod bracket which can be locked in position with a set screw. And, like the other Telyts, the 280mm is designed for use with the Visoflex I or Visoflex II housings, the latter with OUBIO adapter. The new lens mount focuses to 13 feet.

It is also possible to mount the lens unit of the new Telyt in the focusing mount of the 400mm lens. But with this arrangement there is no exact stop at the infinity focus position, nor will the focusing scale of the 400mm mount be accurate for the 280mm lens head. However, the lens unit of the 280mm lens will be available without focusing mount for those owners of the 400mm lens who wish to save the cost of a separate focusing mount for the shorter lens.

Filters for the new lens are the same size as those used for the 85mm Summarex f/1.5, 125mm Hektor f/2.5 and 200mm Telyt f/4 lenses. Under the new Leitz filter designation code, these are E 58 filters – screw-in type, 58mm diameter. Like the other Telyts, the 280mm model has a built-on, collapsible, (and non-loseable) lens hood. A pre-set diaphragm provides click settings for both full and half stops from f/4.8 down to f/22.

Price of the lens unit alone, for use in the mount of the 400mm Telyt is \$210.00. In short mount for use on the Visoflex, it is \$291.00.

new Pradovit projectors

extra automation added

Recently announced new models of the Leitz Pradovit provide mechanical and optical improvements which markedly increase the versatility of this well-known projector.

For instance, the 13-foot remote control cable now offers a switch which selects either forward or backward push-button-controlled travel of both 30- and 50-slide magazines. This, of course, is in addition to the familiar red button which controls focusing and the white one which operates the slide changer.

"editing button"

An electro mechanical push-button, which provides manual "editing" control is another feature of these new projectors. A short push causes the magazine to move one slide forward; a longer push moves it one slide backward. By keeping the button depressed and turning it either forward or backward, you can also continuously advance or back-up the magazine to any degree desired.

Another basic improvement in the new Pradovits is the quieter, faster-operating mechanism which changes slides in less than 1½ seconds. A shutter darkens the screen after the last slide has passed through the film gate, as well as between slides.

Two push-buttons on top of the projector housing control the lamp and cooling fan. One, marked with a lamp symbol, turns on lamp and fan simultaneously. The second, unmarked, permits the fan to run without the lamp, in order to cool the projector between long slide sessions. Pressing both buttons at once centers the electrical lens-focusing mechanism.

a choice of models

The two new Pradovits are designed to meet your individual requirements and to provide the best of service from the standpoint of both performance and protection of your slides. This is why there are two models; the Pradovit N low-voltage model, and the Pradovit FA. The latter is available with a 300 or 500-watt standard projection lamp.

the Pradovit N

If you want a projector for home use and if you project on a screen no bigger than 50 x 50 or 60 x 60 inches, the Pradovit N is your best choice. This is an interesting and revolutionary projector. It em-



Pradovit N

plays a special 12-volt, 8.4 ampere lamp as a light source. To find the wattage of this lamp multiply 12-volts by 8.4 amperes and you arrive at approximately 100 watts. However, this wattage is no criterion for the performance. The brilliance of the projected image with the Pradovit N not only surpasses that of many conventional 300-watt projectors, but even of some 500-watt projectors.

Low-voltage, high-ampere operation offers certain important design advantages in lamp and projection performance. The source of these advantages is the small, thick-wired filament made possible by low-voltage operation. The results of a smaller filament coil are a closer approach to the ideal of a point-source of light and the production of a narrower light beam which makes for increased depth-of-field. An extra benefit is an increase of 180 K in the color temperature of the light which tends to make the light less warm in color than the usual tungsten projection lamp. In addition to the increased depth-of-focus, we have a lower heat production.

depth-of-focus

In projection, the depth-of-field, and depth-of-focus situation is the reverse of that in photography. The subject (slide) is behind the lens and the image is

Legend for Diagrams

- M—Spherical reflector (mirror)
- L1—Low-voltage (high-current) projection lamp
- L2—High-voltage (low current) projection lamp
- C1—Aspheric condenser lens
- H—Heat-absorbing filter
- C2—Condenser field-lens
- S—Slide
- PL—Projection lens (LEITZ 90mm Colorplan f/2.5)

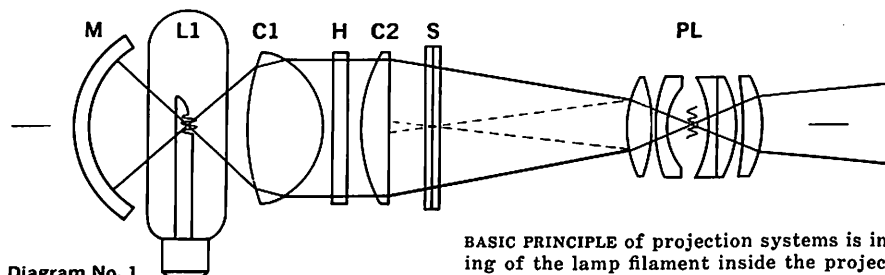
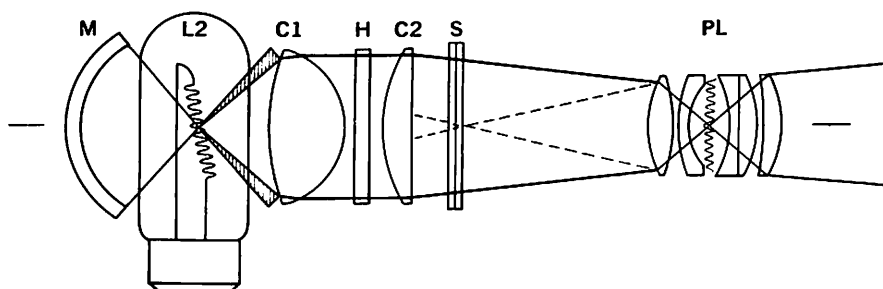


Diagram No. 1
LOW-VOLTAGE (HIGH CURRENT)
PROJECTOR SYSTEM

BASIC PRINCIPLE of projection systems is imaging of the lamp filament inside the projection lens by the condenser lenses. Conventional high-voltage lamp (L2) has large filament of thin wires whose image fills the projection lens (PL) aperture, thus resulting in a shallow depth-of-field. Modern low-voltage (high-current) lamp (L1) has small filament image in the projection lens, utilizing only the choice central rays of the lens to improve image sharpness. Dashed lines show how projection lenses image the slide, indicate the narrower cone-angle and increased depth-of-field obtained by low-voltage lamps which eliminate the need for refocusing of slides for cover-glass thickness variations, as well as tolerances permitted in paper "readymounts." Shaded area in L2 shows loss of light in high-voltage system almost entirely eliminated in low-voltage Pradovit N so that 100-watt 12-volt lamp yields a light-output approximately equal to that of a 300-watt, 110-volt conventional line-voltage lamp.

Diagram No. 2 CONVENTIONAL HIGH-VOLTAGE PROJECTOR SYSTEM



in front of the lens. So, the sharpness tolerance in the film gate is depth-of-field, that at the screen is depth-of-focus. And in projection, depth-of-focus is not affected by the focal length of the lens, but depends only upon the relative aperture. That is, the smaller the aperture-ratio, the greater the depth-of-focus.

The advantages of extra depth and low heat eliminate the tendency of cardboard-mounted slides to pop, and practically eliminate the need to refocus screen images if different types mounts are used. They also increase the longevity of transparencies which are projected over long periods.

Thus, the Pradovit N will be selected not only by amateurs but also by many professionals who want to provide the best possible assurance of safety for their slides, or by those who find it impracticable to bind their slides between glass.

the Pradovit FA

The Pradovit FA will be selected by those photographers who require maximum illumination in order to be able to project pictures in large rooms onto a large screen. In such cases, the professional and the advanced amateur is well advised to glass-bind his transparencies in order to keep the slides

flat so that none of their carefully recorded detail is lost in the image projected on the screen. Nevertheless, the Pradovit FA machines are so designed that they will produce excellent results even with unbound (cardboard-mounted) slides. They offer the maximum heat protection consistent with powerful illumination, thanks to a super-efficient blower and heat filter. Designers have also added a special channel in the lamp-housing chamber which directs a stream of warm air into the magazine chamber to de-humidify slides in the magazine before they reach projection position. This minimizes irritating popping during viewing and the subsequent need to refocus slides not bound in glass.

Normally, the 300 watt model will be completely satisfactory, and the 500 watt model should be selected only when the need for maximum power is extreme. The 500 watt lamp requires the use of an additional heat absorption filter.

Both the Pradovit FA and Pradovit N are normally supplied with the 90mm Colorplan f/2.5 or the 120mm Hektor f/2.5 projection lens. They are also available with a 150mm Hektor f/2.5 projection lens.

Price of the 300-W Pradovit FA with 90mm lens is \$243.00; 500-W model is \$255.00; the low-voltage Pradovit N similarly equipped is \$234.00.

focusing on...

what, no bounce light? Although this picture may not take a top award in the salon department, it is something of a photographic *tour de force*. It shows the Aurora Borealis, or Northern Lights, as they appeared last October over Ontario, Canada. The picture is the product of the savvy and chill-braving zeal of 15-year-old Howard Williams, of Brantford, Ontario, who grabbed his dad's 25-year-old Leica model E and ran out into the night to record the celestial fireworks.

An educated exposure guess of 10 seconds (on tripod, of course!) with the f/2 Summar wide open produced excellent results on Tri-X processed in D-76, 1:1, for 8 minutes. Other, longer exposures on slower film produced unusable blurs, since the "lights" shift about in the sky.

The Aurora Borealis is a relatively rare event in most areas of the U. S., but can be seen occasionally. And against such a surprise appearance in your own area, we thought you might find the data for young Howard's successful exposure useful as a guide for some shots of your own. With an f/1.5 or 1.4 lens you could cut his Tri-X exposure in half, and with high-speed color, at those high apertures, 5-to-15 second exposures should get results. It's pretty tricky, though, and you should do plenty of bracketing, especially with the color film.

The auroral effect that produces "streaks" or "shafts" of light like those in the photo is the easiest to picture successfully. Choose as subjects shafts that are fairly stationary. "Theater-curtain" and other auroral effects offer less chance of success.

color courses. The well-known color photographer, teacher, exhibitor and lecturer, Helen C. Manzer, FPSA, ARPS, will again offer courses in color photography this summer and fall.

Three courses will be held on California's Monterey Peninsula: First group from May 29 to June 9; second group from June 19 to June 30; third group from July 3 to July 14. Further information about these West Coast courses can be had from Margaret E. Wilson, 970 Lighthouse Avenue, Pacific Grove, California.

The East Coast courses offer a chance to improve your photography while enjoying the colorful countryside of the famous Lakes Region of New Hampshire. The first course is from July 31 to August 11; second course, August 14 to August 25.



Two special courses featuring Fall foliage will also be available. First of these is from September 24 to September 29; the second, from October 1 to October 6. More information on the East Coast courses is available from Ruth L. Wiesen, P.O. Box 70, Laconia, New Hampshire.

new book. **TAKING PICTURES AFTER DARK**, by Y. Ernest Satow. Amphoto, N. Y., hard covers, 19 pp., \$2.50.

Using the sound approach that distinguished his previous book "35mm Negs and Prints," the author explores the specific field of after-dark photography. Discussed are equipment, films, exposure, developers, development and printing practices.

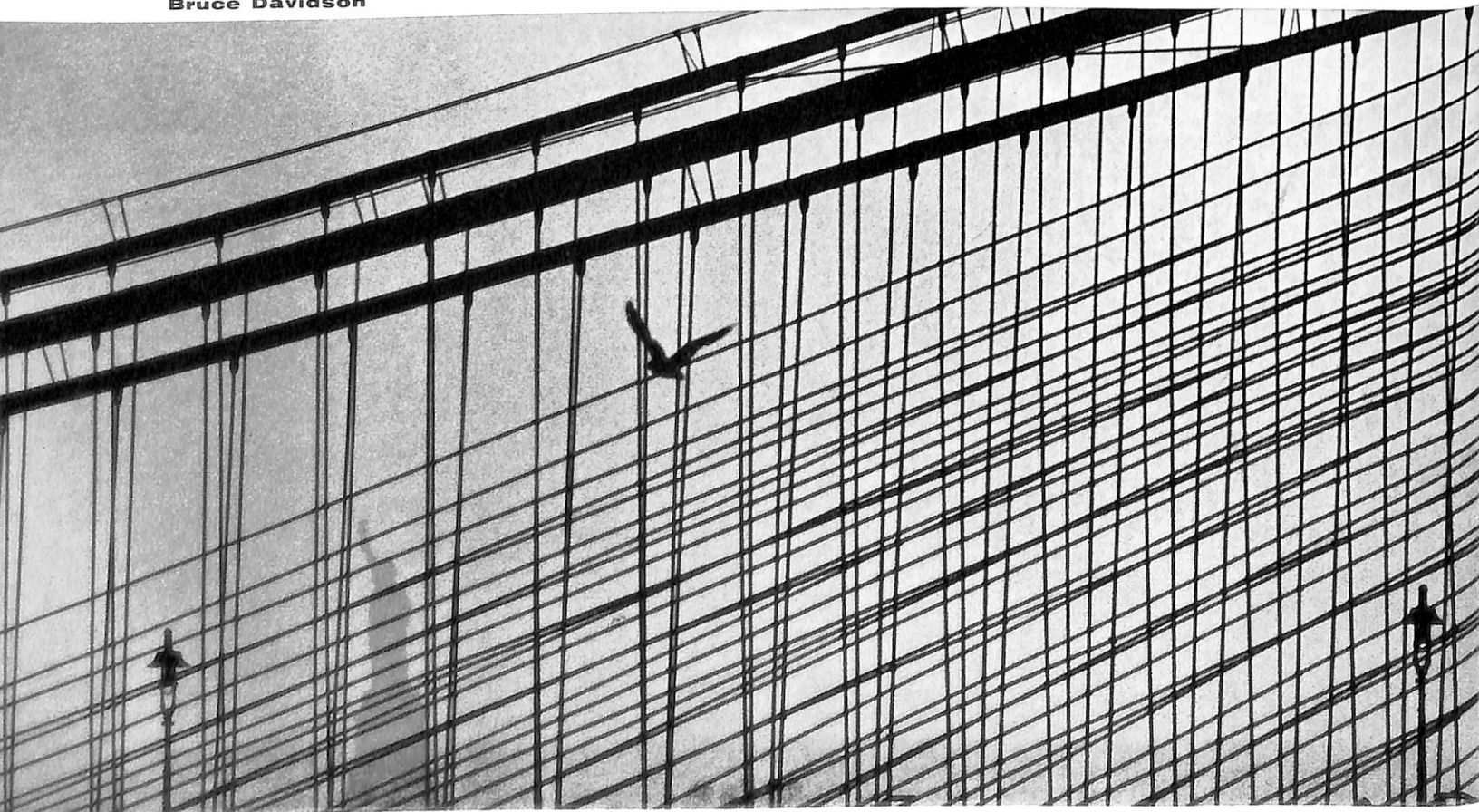
There is also an interesting chapter on subjects and their interpretation which touches on such off-trail practices as how to get night effects during daylight, and making black-and-white negative prints from color transparencies.

The book is well illustrated, not only with the author's own photographs, but with the work of other outstanding photographers. Reproduction seems better than we have come to expect from these relatively inexpensive books. And, as usual, Satow's advice is practical, personal, backed by wide experience and extremely useful to all Leica-wielding night owls.

Leica portfolio

*Presenting four examples of the
many outstanding contributions
made to photography by Leica
owners in all parts of the world.*

Bruce Davidson







Alfred Eisenstaedt

Bruce Davidson



Mr. Mili's quiet camera | *Photographs by Gjon Mili*

silence, once again, proves golden

Gjon Mili's early fame sprang from the beauty and scientific importance of his repetitive-flash, motion-analysis shots whose images smote the eye like bursting fireworks. His current work still portrays people in action, but offers us living human beings rather than scientifically segmented abstractions. He has not, by any means, abandoned electronic flash as a light source, as is witnessed by our cover. But much of Mili's current work is done in such places as movie sets, theaters and college classrooms and other locations where conspicuousness would be fatal to mood and truth.

For such locations, Mili works by existing light with a Leica. But not merely because of its size and wide range of lenses. His approach to his work is too thorough to stop there. In selecting equipment for "intimate" assignments, Mili sought out the *quietest* camera, so that the release of a shutter would not interrupt action and mood and thus spoil the shooting session or sequence of pictures.

A few of Mili's on-location shots appear here, each testifying not only to his subtle approach to pictures, but to the fact that in photography, as in many other ways of life, silence is golden.

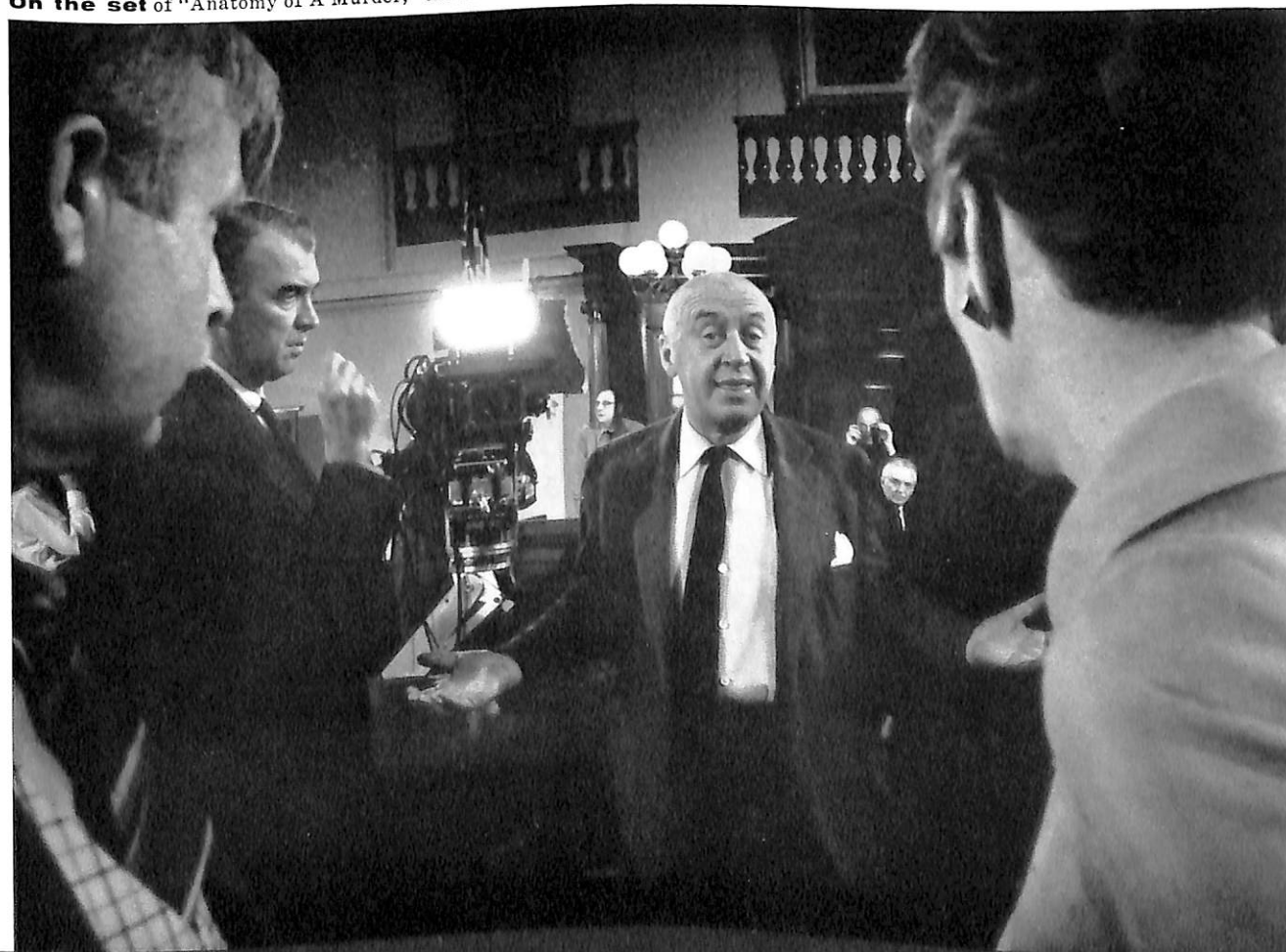
Off-broadway production of "The Boy Friend" required working in close quarters.

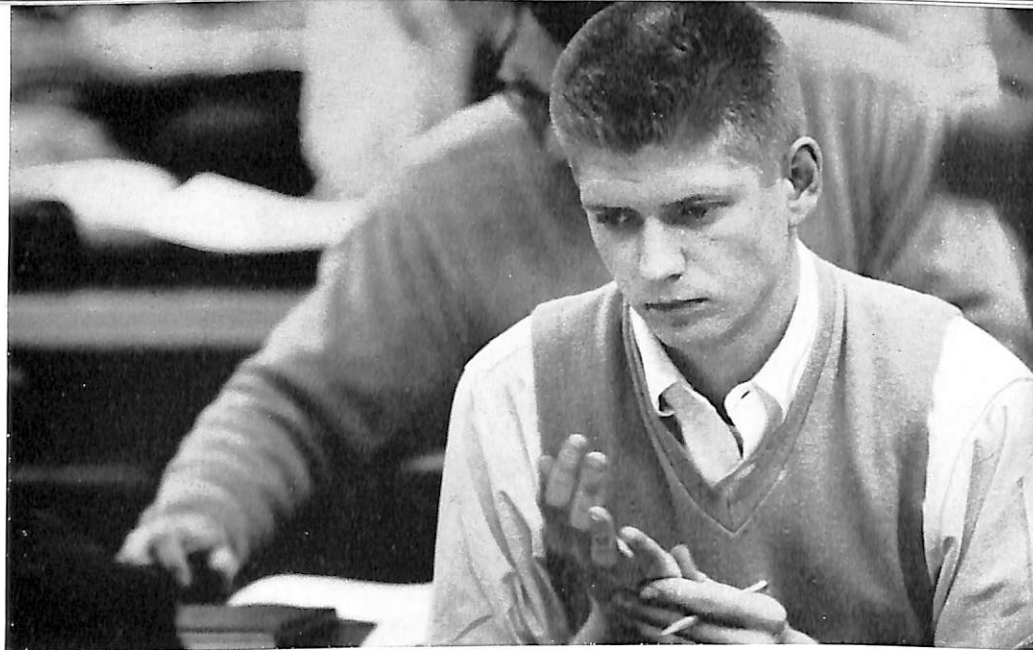




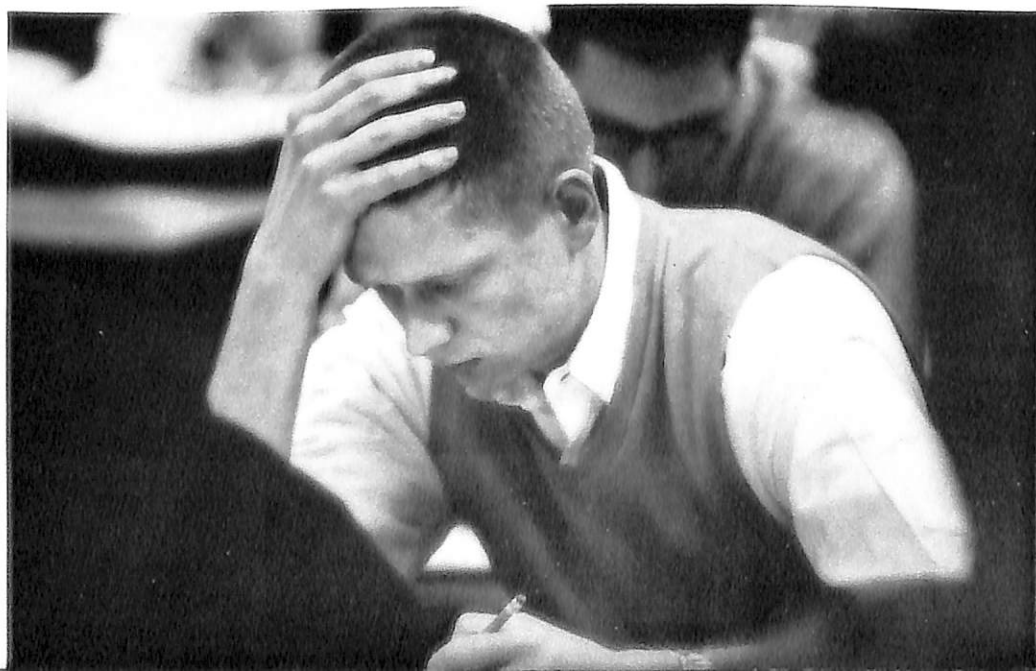
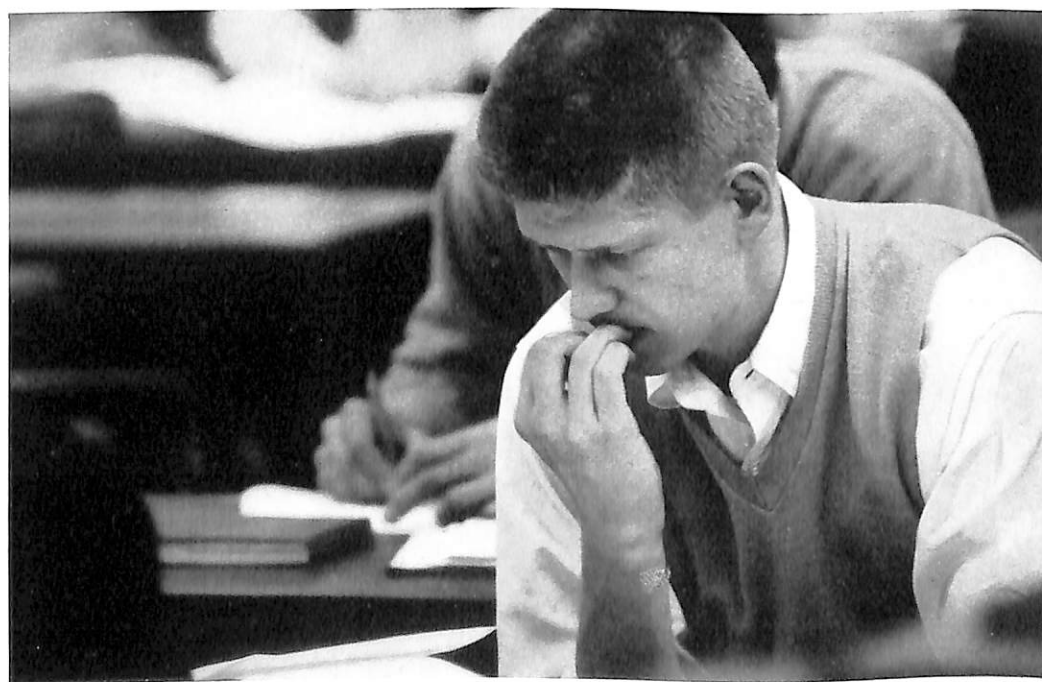
Private rehearsal by member of Budapest String Quartet was undisturbed by Mili's Leica.

On the set of "Anatomy of A Murder," the 21mm lens provided extreme depth of field for this rehearsal scene.





◀ **Long lens**
and silent camera
produced close-ups
without disturbing
concentration of
student during
MIT exam.



On-stage ▶
shot during
rehearsal of
"Endgame"
was made with
90mm lens.



let's get organized! / J. L. Lowrey

filing and recording as a path to technique

One of the less glamorous and perhaps most neglected phases of photography is the business of filing negatives and recording picture-taking and darkroom data. But systematic record keeping and evaluation of all controllable factors in shooting, developing and printing will pay enormous dividends in the end-quality of your work. A simple, orderly filing system will not only preserve irreplaceable negatives but keep them at your fingertips for instant use.

film exposure and development data

The first step is recording film exposure and development data on a standard size (8½" x 11") form, mimeographed or multilithed and punched for a three ring binder (see Fig. 3). Such records are basic, since they make it possible to avoid past mistakes and to repeat successes. If the basic data of exposure and development are recorded for every roll of film, evaluated against the final prints and applied in the next shooting session, better pictures are bound to result.

While the film is in the developer, assign a file number to the roll and fill in the blanks on exposure and development. The file number entered in the upper right hand corner of the sheet is the identification for the negatives, their data sheets, contact prints and enlargements, i.e.: *everything* relating to this one roll of film.

Intelligent use of these records will assure on-the-button exposure every time, as after some experimenting you can determine optimum film speed ratings, shutter settings and f-stops for a wide range of lighting conditions. We can define "optimum" exposure as that which produces negatives of the minimum density needed to yield a good print. Within limits, density is determined by exposure, and contrast (other than subject contrast) is determined by development. So once exposure factors are set, developing time, agitation and film developer strength can be established to produce a suitable contrast.

contact-printing the negatives

The second step is a wholesale process, since 35 frames of 35mm film, cut in strips of five frames, can be printed neatly on one sheet of 8" x 10" enlarg-

ing paper. To make the prints, place a sheet of single weight glossy normal contrast paper on the enlarger base. Lay the negative strips, emulsion down, on the paper and place a sheet of clean glass over them. With the enlarger as the light source, it is not necessary to use contact paper because, in terms of illumination, you are actually projection-printing.

To determine exposure, f-stop and enlarger head position, select an old negative of minimum density from which you have made a print which is technically of top quality. Using this negative of known perfect density as a "control," run test strips to establish contact-printing norms. For example, with my Leitz Valoy II, an exposure of seven seconds on Eastman Medalist paper, with the enlarger at the top of the column and the lens at f/4, produces a properly exposed contact sheet IF to the negatives are of the correct density. If the negatives are under or over exposed, these density variations show up like a sore thumb in the contact prints (See Fig. 2).

Exact repetition of all conditions in this process is a must, otherwise you will not be able to judge variations in the negatives by the same standards each time. So, once you have decided upon them, use the same paper, developer, exposure factors and developing time.

You can extract a wealth of information from these contact sheets. You can decide which frame numbers should be enlarged and judge what contrast enlarging paper to use, because the contact sheet made on #2 paper clearly shows if more or less contrast is needed. Expression on portraits and informal snapshots can readily be seen. You can decide how best to frame the final enlargement, which exposures are the sharpest and even where to dodge and burn in the print. Test strips can be reduced to a minimum since, in working with negatives of known density, enlarging exposures become standardized.

Perhaps the greatest advantage of 35mm is the large number of exposures you can shoot in a short time. To exploit this advantage, every negative must be given a careful appraisal: the use of a contact sheet makes this a simple job.

The contact sheet should be ferrotyped for maximum detail, punched and put in the binder opposite and facing its companion film data sheet. (Fig. 1).

filing the negatives

Glassine sleeves in the 2" x 10" size, designed for 35mm, will hold the negative strips nicely. One source of these sleeves is Andrew E. Lutz, P.O. Box 5, Syracuse 11, N. Y. To store all the negative sleeves of one roll of film, heavy duty jackets can be cut from letter size file folders. The negative file number is entered in the upper right hand corner of the jacket (Fig. 1).

A filing cabinet for these jackets can be anything from a simple wooden box to a factory-built metal office type cabinet. They are simply stored in numerical order, one behind another.

enlarging

A second data sheet is used to record exposure and development factors in enlarging (See Fig. 3). With enlarging data recorded and placed in the binder, exact duplicates of enlargements can be made years later.

A diameter-of-enlargement scale, as on the Leitz Focomat, is necessary because the size of the enlarged image is a variable factor in enlarging and must be recorded. If your equipment lacks this useful gadget, you can add one by mounting a pointer on the enlarger head and marking or gluing a scale on the adjacent wall (See Fig. 4). If you prefer the portable approach, scribe or otherwise mark the enlarger upright itself. Calibrating is done by projecting the empty negative carrier onto the easel and marking the diameter scale when the projected image is double actual negative carrier size, triple, etc.

filing enlargements

Prints can best be filed in regular letter size file folders and stored in filing cabinets. The folders need only the negative file numbers for identification.

cross indexing

The system is a fileclerk's delight. In the case of portraits, for instance, a 3" x 5" card file can be set up by name and negative file number. Filing by subject matter; seascapes, landscapes, architecture, children, etc., is just as simple. On the 3" x 5" card you can note the subject in the upper left hand corner and the individual file number or numbers on the card.

All this filing and indexing and data recording is not an end in itself, but simply a logical method of mastering technique. It is also a time- and money-saver in the long run. Once the technique is mastered you are free to concentrate in the ultimate goal of all photographers: GOOD PICTURES.

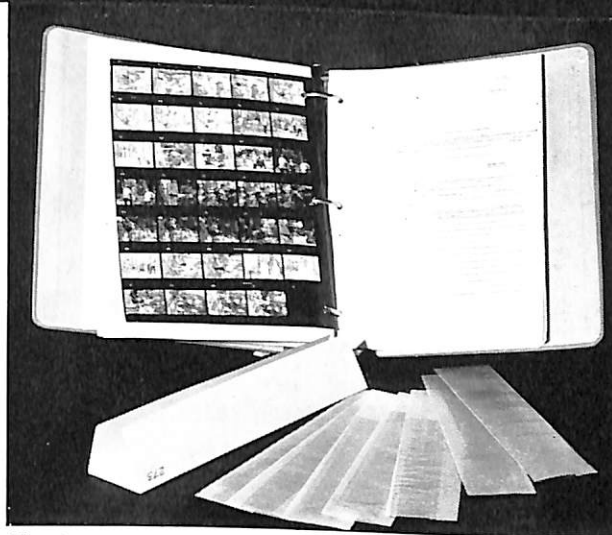


Fig. 1



Fig. 2

Date Enlarged 9/5/56 # 275
Contact sheets: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 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but I followed the instructions! / George Ward

there are things the data sheet doesn't mention

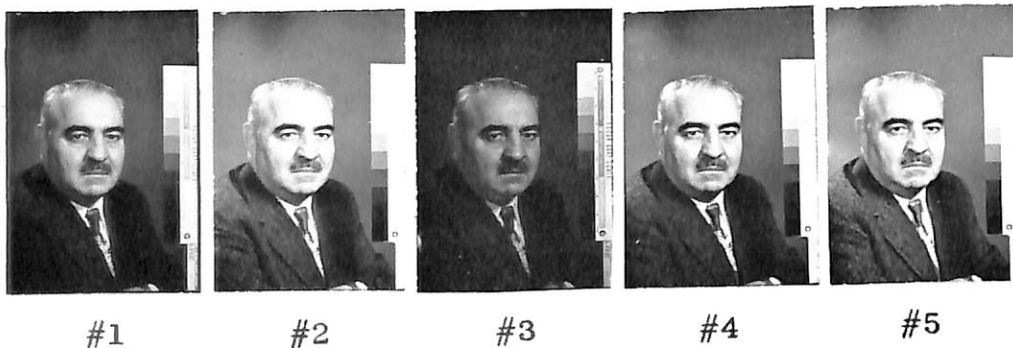


Fig. 1

The author is a well-known photographic consultant and lecturer. In this article, he describes his own experience in exploring some often-ignored aspects of film development which can, if disregarded, prevent consistent results.

Have you ever heard "The Photographer's Blues"? This heart-rending ballad is also known as "I Followed The Instructions. But . . .", and the lyrics describe Bad Things like too much contrast, not enough contrast, too much grain etc. Very sad.

I was recently treated to several choruses of this melancholy ballad by an unrehearsed quartet soon after giving a lecture in which I had recommended a specific film-and-developer combination. Most of the rather large audience of working photographers had been most happy with the results of my recommendation, but four were not. Two complained of too much contrast, one of not enough contrast, and one of grainy negatives. And, of course, all vowed that they had followed the instructions with great care. According to each of my colleagues, the temperature had been exactly right when checked by the thermometer. The timing had been correct to the second. The developer had been prepared with great care. But, in spite of all this attention to detail, the final results were neither what the photographers had expected nor what they wanted. Procedure had been correct, yet the negatives were not.

What had gone wrong?

a controlled test

To attempt to find out, I outlined an experiment to the four photographers. They agreed to help me with it, and the results were both interesting and informa-

tive. All of us profited from them.

Here's what we did: I exposed a cartridge of Kodak Plus X Film, exposure being determined by an accurate meter set for an E.I. of 160. Each frame was identically exposed, and the film was divided into 5 strips. Each of us developed a strip using the same bottle of UFG developer. (Time: three-and-a-half minutes, Temperature: 70°F, Agitation: five seconds every 30 seconds.)

The five strips were proof-printed on the same piece of #2 Enlarging Paper. Figure 1 contains individual frames from each of the 5 strips. Negatives from any one of the five strips will produce satisfactory prints. Since we had all "followed instructions to the letter," we held a post mortem to try to discover the reasons for the variation in our results.

I developed strip #1. Three empty reels were immersed in a four-reel Nikor Tank along with the reel containing the film. The film was removed from the tank after three-and-a-half minutes, rinsed for five seconds, hypo'd and washed, all solutions were held to 70°F. (See Figure 2.)

Strip #2 was processed in the same as strip #1 with one exception. Empty reels were *not* placed in the tank along with the reels containing the film. Thus, the film was allowed to travel up and down in the tank like a piston during the agitation cycle. (See Figure #3.) The increase in agitation accounts for greater density and contrast.

faulty timer

Strip #3 was immersed in a cut film tank via the dip rod. Every 30 seconds the reel was lifted from the developer and was allowed to drain for several seconds. After three-and-a-half minutes (according to the clock that was used) it was rinsed for five seconds, hypo'd and washed. All solutions were held at constant temperature. A check of the lab equipment proved the interval timer used was 26 seconds fast and the thermometer was two degrees high. Thus, the film not only received less vigorous agitation than either strip #1 or #2, but it was developed for approximately three minutes at 68°F. The developing error of 26 seconds amounted to 14% underdevelopment. These errors account for the decrease in contrast and density.

Strip #4 was placed in a four-reel tank along with another reel of film. Developer was then poured into the tank via the pour spout. After three-and-a-half minutes the tank was emptied, via the pour spout and 82°F water was run into the tank. The rinse cycle required about 30 seconds. The film was hypo'd at 55° and washed for a half-hour in 60°F water.

In this case, the actual developing time was close to four minutes because of the time required to fill and empty the tank. Also, 30 seconds in an 82°F rinse is hardly a desirable procedure. The general lack of temperature control after development could easily have been the cause of grainy results. The four-min-

ute developing time, piston agitation and 82°F rinse account for the increase in density and contrast.

inaccurate thermometer

Strip #5 was immersed in a two-reel tank, an empty reel was *not* used. After three-and-a-half minutes it was rinsed for five seconds, hypo'd and washed all at constant temperature. However, the thermometer read three-and-a-half degrees low. The actual developing temperature was 73½°F not 70°F. (See Figure 4.) The slight piston type agitation and the three-and-a-half-degree high developing temperature account for the increase in density and contrast.

Time, temperature and agitation are important factors in film development. If you have reason to be dissatisfied with your results, check your lab equipment and your procedures. Establish one method of agitation and learn to be consistent. (Thin-emulsion films like Panatomic-X, Adox, KB-14, etc., call for gentler agitation than other types of film. A good technique for them is to use a tank which can be inverted, and simply turn it upside-down each minute. Leave it inverted without other agitation for a minute, then leave it upright for a minute and repeat the inversions until development is complete . . . ED.)

The kind of enlarger you use, combined with the brand and type of paper you prefer should be considered in arriving at what you consider optimum negative quality.

Fig. 2



Fig. 3



Fig. 4



connoisseur's corner...

90mm THAMBAR f/2.2



Some 20-odd years ago, when there were still romantics left in the world, even among photographers, Leitz made a special lens for them. It was the 90mm Thambar f/2.2, long discontinued, but one of the most interesting lenses ever computed. And the greatest boon to 35mm portraiture since faces.

The Thambar was a variable soft-focus lens, producing images ranging from soft (when wide open) to critically sharp (when stopped down below f/6.3).

The Thambar, as you may have guessed, achieved its unique image qualities by means of incomplete correction of the edge rays which passed through the peripheral lens areas. Thus, it was softest at highest apertures and gradually reached critical sharpness as the diaphragm confined light passage to the center of the lens as it was stopped down. The center of the lens had better correction than the extreme edges.

Ultimate image softness was achieved with a special mirrored "spot" centered in a thin, clear glass, filter-like disc which came with the lens. This was attached in front of the lens, blocking off the more highly-corrected central area and causing the image to be formed only by the relatively uncorrected peripheral rays, but even with the spot in use, softness was controllable.

The spot, however, could not be used at apertures smaller than f/6.3, since depth of field at small apertures was sufficient to register the spot as a light blob in the center of the negative area.

An aspect of the Thambar which was more useful as a clue to the maker's integrity than as a practical feature, was its double diaphragm scale. A white scale beginning with f/2.2 etc., was used when the lens was used without the spot. A red scale beginning with f/2.3, etc., was used when the spot was in place. The reason for the minute difference in aperture rating is, of course, because the spot blocked off some lens area and hence some light. Thus, it made a small change in the f/ratio, since a given diaphragm opening had the same area both with and without the spot in place. The difference in exposure at f/2.2 and f/2.3, practically speaking, is zero. But those who would rather have been right than have been President were given the opportunity to be so.

Thambar images had much to commend them, especially in portraiture. They were kind to wrinkles and skin texture (which solved retouching problems), and they offered an ineffable but striking luminosity, especially in strongly-lit pictures. And Thambar landscapes were as effective as Thambar portraits, taking on an enchanted air especially when back- or side-lighting was used.

The Thambar was a specialist's lens, demanding practice and experience from the photographer who used it successfully. But for the Leicaman who knew the result he wanted, and how to get it, the Thambar offered nuances of performances no other lens could match.

BELOW f/6.3, the Thambar produced critically sharp pictures.

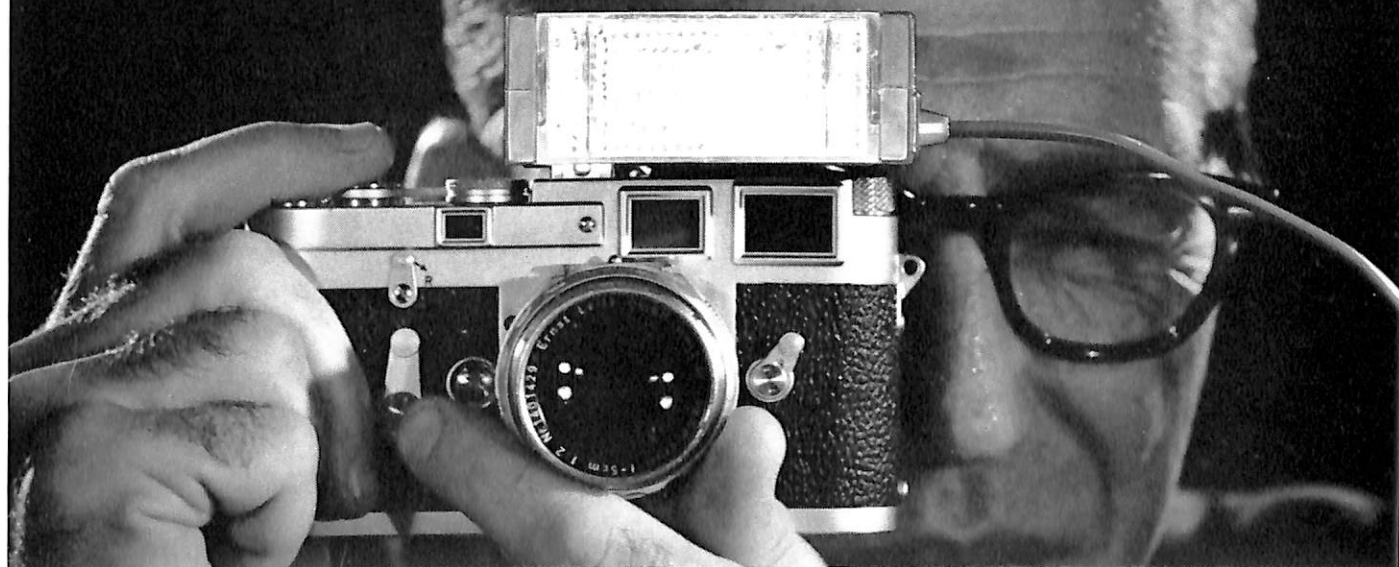


WIDE OPEN, even without disc in place, images were quite soft.



New...F-30 from Braun Hobby

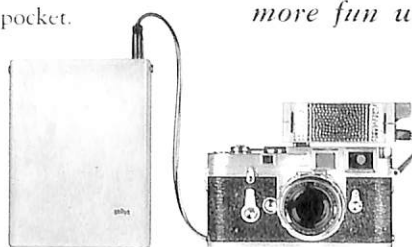
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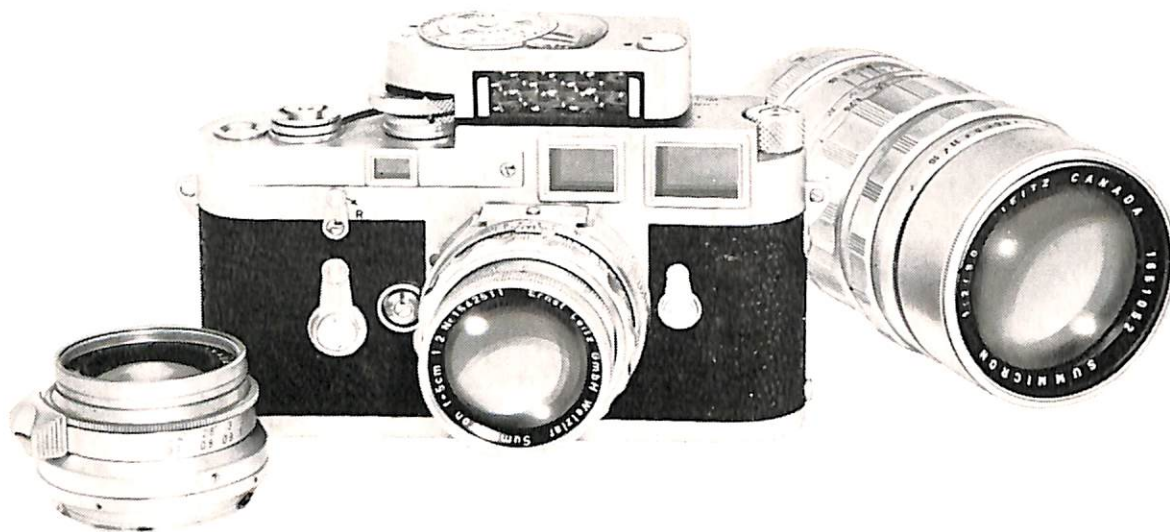
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